

**REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-6 remain pending in the application. By this Amendment, claims 1 and 4-6 are amended.

**Claim Rejections under 35 USC §101**

Claims 1-6 stands rejected under 35 USC 101 as not falling within one of the four statutory categories of invention. In response, claim 1 is amended and is believed to be directed to statutory subject matter for the reasons discussed below.

The U.S. Court of Appeals for the Federal Circuit recently confirmed in its *In re Bilski* 545 F.3d 943, 88 U.S.P.Q.2d 1385 (2008) decision that:

...the machine-or-transformation test ... is the governing test for determining patent eligibility of a process under 35 U.S.C. § 101....

The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.

Claim 1 is amended to be tied to a “single-piece receiver,” and therefore meets the test set forth by the Court for determining patent eligibility of a process under 35 U.S.C. § 101. For at least the foregoing reasons, the rejection of claim 1 and claims 2-6 that depend therefrom under 35 U.S.C. § 101 should be withdrawn.

**Claim Rejections under 35 USC §112**

The Patent and Trademark Office (PTO) rejects claims 4-6 under 35 U.S.C. §112, second paragraph, asserting that the claims are indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claims 4-6 are further rejected under 35 U.S.C. §101 as not being proper process claims. Based upon the amendments to claims 4-6 that further define the transmitting steps of claims 1-3, these rejections are respectfully traversed.

**Claim Rejections under 35 USC §103(a)**

Claims 1-6 stand rejected under 35 USC 103(a) as being unpatentable over *Mills et al.* (US Patent 6,704,376 B2). This rejection is respectfully traversed for the reasons discussed below.

Applicant respectfully submits that *Mills*, at column 9, lines 12-19, appears to relate only to CDMA system or similar system, and therefore requires an ordering of user indices.

The method of claim 1 is distinguished from *Mills* in that Applicant's method does not use ordering means. It considers all the users as a whole.

For example, *Mills*, at column 7, lines 21-25, states that "the invention is devised in the light of the problems of the prior art described herein," and in columns 1-4, mentions the CDMA system. Furthermore, column 7 lines 31-40, specifically states that ordering the user indices is necessary. This is further stated in at least claim 1 of *Mills*, all other independent claims, 10 and 17, and column 9, lines 45-50.

Still further, *Mills* specifically describes, at column 14, lines 5-8, wherein the step of ordering user indices is a necessary characteristic of the invention.

Moreover in column 8, lines 5-18, *Mills* discloses wherein it is preferable to use several iterations, because "confidence ordering is most effective on the second and subsequent iterations."

The method of claim 1 is distinguished from *Mills* in that Applicant does not perform an ordering step and the step of decoding is realized by considering all the users.. It is not necessary to sort the users as disclosed by *Mills*, because the system of claim 1 is less complex than the CDMA system of *Mills*.

Indeed, as presented in the specification, Applicant states that:

"Known from the prior art are methods enabling simultaneous transmission from different users. These normally rely on the use of spreading codes, such as CDMA (Code Division Multiple Access), MCCDMA (Multicarrier Code-Division-Multiple-Access) and/or on the use of multiple-antenna receivers."

Applicant further states that:

"the method according to the invention relies in particular on a novel approach which exploits the independence of the binary streams (signals originating from the different senders)

channel encoding and the difference of the majority of the propagation channels.”

Contrary to the teaching of *Mills* that requires spreading code and the ordering of user indices, Applicant’s claimed method does not use a “spreading code.” More specifically, claim 1 recites, *inter alia*,

- a) receiving, by a single-piece receiver receiving a mixture of signals originating from  $N_T$  users, and determining qualitative information onthe symbols estimated for each of the  $N_T$  users,
- b) transmitting the qualitative information to a processing block receiving an a priori information and designed to generate a quality information, on the bits forming the symbols, and
- c) transmitting the quality information to a decoding step to obtain a qualitative information on the encoded bits and on the useful bits.

Applicant respectfully submits that *Mills* fails to disclose, teach, or suggest each and every of the features listed above.

Claim 2-6 depend from independent claim 1 and are likewise patentable over *Mills* for at least their dependence on an allowable base claim, as well as for the additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

### **Conclusion**

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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